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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/783,357  
Filing Date: February 20, 2004  
Appellant(s): RHEE ET AL.

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GROUP 1700

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Richard S. Roberts  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed December 7, 2006 appealing from the Office action  
mailed July 17, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief (filed December 7, 2006 in response to the Notification of Non-Compliant Appeal Brief mailed December 4, 2006) is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

Pub. No. US 2003/0008152 A1	TSAI et al.	01-2003
US Pat. No. 6,656,601 B1	KAWACHI et al.	12-2003
US Pat. No. 4,751,270	URAWA et al.	06-1988
US Pat. No. 6,849,314 B1	JING et al.	02-2005

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### *Claim Rejections - 35 USC 103*

7. Claims 1-28 and 40-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) evidenced by Urawa et al (4751270).

With regards to claims 1 and 13-14, and 16-21, Tsai et al. (2003/0008152) discloses a multilayer film comprising a fluoropolymer layer and a thermoplastic layer attached by an adhesive tie layer (Pg. 1, Para. 13, Lines 1-5) which is made of an ethylene/alpha olefin copolymer evidenced by Urawa et al (4751270) (Col. 1, Lines 52-55) found in Tsai et al. (2003/0008152) (Pg. 2, Para. 15, Lines 11-14). Tsai et al. (2003/0008152) fails to teach the adhesive tie layer comprising at least one tackifier as in Claim 1. Tsai et al. (2003/0008152) further fails to teach the specific composition of said adhesive tie layer, such as the choice of tackifier from claims 13 and 14, and the weight percents of the tackifier in the adhesive tie layer from claims 16 to 21.

However, Kawachi et al. (6,656,601) discloses an adhesive composition of 50-99% by weight of ethylene/α-olefin copolymer (Col. 3, Lines 4-5) containing a tackifier in amounts of 1% by weight to 50% by weight (Col. 3, Line 18), where said tackifier is selected from petroleum based (Col. 19, Line 1), terpene based (Col. 19, Lines 12-14), as well as other known tackifiers (Col. 2, Lines 57-67 and

Col. 3, Lines 1-23) for the purpose of obtaining an adhesive composition has high adhesive force between polymers (Col. 2, Lines 55-57).

It would have been obvious to one of ordinary skill at the time the invention was made to use the adhesive composition comprising a combination of at least one tackifier and an ethylene/alpha olefin copolymer of Kawachi et al. (6,856,601) as an adhesive tie layer in the multilayer film of Tsai et al. (2003/0008152) in order to obtain a film with increased adhesive strength between the fluoropolymer layer and the thermoplastic layer.

In regards to Claims 2-7, and 23, Tsai et al. (2003/0008152) discloses a multilayer film disclosed having a number of additional layers of other polymers on either or both sides of the multilayer film, the additional polymer layers joined with or without adhesive layers between the additional polymer layers (Page 2, Para. 18, Lines 18-23). These additional layers may comprise of thermoplastics such as polyolefins, polyvinyl chloride, polyvinylidene chloride, or other such polymers (Page 2, Para. 18, Lines 16-22).

In regards to Claims 8-10, Tsai et al. (2003/0008152) also discloses a number of fluoropolymers that can be used in the film, such as chlorotrifluoroethylene homopolymers and copolymers (Pg. 1, Para. 14, Lines 5-11) and poly(chlorotrifluoroethylene) homopolymers and copolymers (Pg. 1, Para. 11, Lines 3-4).

In regards to Claims 11-12, Tsai et al. (2003/0008152) discloses that the thermoplastic layer in the multilayer film is a cyclic (cyclo) olefin homopolymer or copolymer (Pg. 1, Para. 13, Lines 3-4).

In regards to Claim 22 and 24, Tsai et al. (2003/0008152) discloses the multilayer film being coextruded together using cast or blown film techniques (Page 2, Para. 21, Lines 1-18).

In regards to Claims 25-26, the films in Tsai et al. (2003/0008152) are oriented (stretched) uniaxially or biaxially from at least 1.5 to 10 times in the longitudinal (machine) and/or transverse directions (Pg. 3, Para. 23, Lines 19-23).

In regards to Claims 27-28 and 41-42, Tsai et al. (2003/0008152) discloses that the films can be formed or thermoformed (Page 5, Para. 40, Lines 6-8) into an article suitable for packaging moisture sensitive products due to the fluoropolymer containing films improved water vapor barrier capability (Page 5, Para. 40, Lines 2-4).

8. Claims 29 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) as applied to claim 1 above, and further in view of Jing et al. (6,849,314). Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) teaches a multilayer film with layers of fluoropolymers, adhesive tie layers and thermoplastics with all the limitations as taught above. Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) fails to teach the multilayer film being formed into a tube.

However, Jing et al. (6,849,314) discloses that films containing fluoropolymer layers are well known in the art to be formed into tubes (Col. 1, Lines 9-10) for the purpose of producing tubes with chemical resistance and low fuel permeation (Col. 1, Lines 21-22)

It would have been obvious to one of ordinary skill at the time the invention was made to form the multilayer article of Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) into a tube as in Jing et al. (6,849,314) since it is well known in the art that this produces a tube with chemical resistance and low fuel permeation.

**(10) Response to Argument**

Examiner notes that the discussion in the first paragraph in the Summary of Claimed Subject Matter section of the Brief (page 3 of Brief) is directed to the field that the invention falls within and is not limited to solely the claimed subject matter. Examiner also notes that Appellant's statement “[t]he present invention claims multilayer packaging films having excellent bond strength between a fluoropolymer layer and a thermoplastic polymer layer” (last three lines of page 3 of Brief) suggests that “excellent bond strength [between the respective pairs of relevant layers recited in each of independent claims 1 and 40]” is recited in each of independent claims 1 and 40, but neither claim recites “excellent bond strength” between any pair of layers.

Appellant's arguments presented on pages 5-9 of the Brief regarding the 35 U.S.C. 103 rejection of claims 1-28 and 40-42 over Tsai et al. and Kawachi et al. (and as evidenced by Urawa et al.) have been fully considered but are not persuasive.

Appellant argues that there is no motivation to combine Tsai et al. and Kawachi et al. (top of page 7 of Brief) because “Kawachi et al. does not teach fluoropolymer containing multilayer films, and do not teach that their adhesive compositions are capable of adhering to fluoropolymer films” (second full paragraph of page 6 of Brief), but one of ordinary skill in the art would have recognized to have looked to Kawachi et al. for a teaching of well known additives to ethylene/α-olefin adhesive polymer since both Tsai et al. and Kawachi et al. pertain to multilayered polymeric films comprising a layer of ethylene/α-olefin adhesive polymer. Tsai et al. explicitly teach that suitable polymers for the adhesive of Tsai et al. include the modified polyolefins of US Pat. No. 4,751,270 to Urawa et al. (paragraph 0015). Appellant admits in the

Brief that Urawa et al. "is mentioned in the Tsai reference as describing polyolefins useful in [Tsai's] adhesive layer", and, "[t]o be sure", that "Urawa et al. discloses modified polyolefins that may comprise copolymers of ethylene and an  $\alpha$ -olefin" (page 6 of the Brief). Through these admissions of Appellant, Appellant admits in the Brief that Tsai et al., through Urawa et al., disclose ethylene/ $\alpha$ -olefin adhesive polymer, and therefore agrees with the substance of the rejection of record. Therefore, the combination of Tsai et al. and Urawa et al. fail only to expressly teach the claimed tackifier. Also by Appellant's admission, Kawachi et al. "teaches an adhesive composition which includes an ethylene/ $\alpha$ -olefin copolymer and a tackifier" (page 6 of the Brief). The teaching of Kawachi et al. of an adhesive composition which includes an ethylene/ $\alpha$ -olefin copolymer and a tackifier establishes that a tackifier is a well known additive in an ethylene/ $\alpha$ -olefin copolymer adhesive layer in a multilayer polymeric film. As stated above in the first sentence of this paragraph, one of ordinary skill in the art would have recognized to have looked to Kawachi et al. for a teaching of well known additives (such as tackifier as taught by Kawachi et al.) to ethylene/ $\alpha$ -olefin adhesive polymer since both Tsai et al. and Kawachi et al. pertain to multilayered polymeric films comprising a layer of ethylene/ $\alpha$ -olefin adhesive polymer.

Appellant argues that Kawachi et al. do not teach fluoropolymer-containing multilayer films, nor that the adhesive compositions of Kawachi et al. "are capable of adhering to fluoropolymer films" (page 6 of Brief), but, as discussed above, the combination of Tsai et al. and Urawa et al. fail to expressly teach solely the claimed tackifier, so Kawachi et al. is relied upon solely to teach that tackifier is a well known additive to an ethylene/ $\alpha$ -olefin copolymer adhesive layer in a multilayer polymeric film. Kawachi et al. need not teach fluoropolymer-

containing multilayer films, nor that the adhesive compositions of Kawachi et al. "are capable of adhering to fluoropolymer films", since the primary reference, Tsai et al., teaches fluoropolymer-containing multilayer films and that the adhesive compositions of Kawachi et al. "are capable of adhering to fluoropolymer films", by virtue of the fact that Tsai et al. teach a multilayer film that comprises a fluoropolymer layer.

Appellant urges that an "obvious to try" standard is not proper from page 7 to top of page 9 of the Brief, but an "obvious to try" standard is not relied upon in the rejection of record. See rejection of record. The premise of the rejection of record is clearly that tackifier is a well known additive to ethylene/α-olefin adhesive polymer in a multilayer polymer film as taught by Kawachi et al., so it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included tackifier in the ethylene/α-olefin adhesive polymer layer of the multilayer polymer film taught by Tsai et al. to increase tackiness, i.e., adhesiveness, since tackifiers are taught to be compatible with ethylene/α-olefin adhesive polymer.

Appellant's arguments presented on pages 9-11 of the Brief regarding the 35 U.S.C. 103 rejection of claims 29 and 43 over Tsai et al., Kawachi et al. and Jing et al. have been fully considered but are not persuasive.

Appellant argues that Jing et al. "acknowledges the known difficulty in the art of bonding fluoropolymer layers to non-fluoropolymer layers", but, as discussed above, the primary reference, Tsai et al., teaches fluoropolymer-containing multilayer films and that the adhesive compositions of Kawachi et al. "are capable of adhering to fluoropolymer films", by virtue of the fact that Tsai et al. teach a multilayer film that comprises a fluoropolymer layer. Jing et al. is

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relied upon solely to teach that multilayer structures comprising a fluoropolymer layer in the form of tube are well known. See rejection of record.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Walter B. Aughenbaugh  
*Walter B. Aughenbaugh*  
March 27, 2007

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